

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE <div style="text-align: center;">J</div>		PAGE OF PAGES <div style="text-align: center;">1   11</div>	
2. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">0006</div>		3. EFFECTIVE DATE <div style="text-align: center;">07-Sep-2005</div>		4. REQUISITION/PURCHASE REQ. NO. <div style="text-align: center;">W16ROE-5193-5922</div>		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, NEW YORK ATTN:CENAN-CT ROOM 1843 26 FEDERAL PLAZA NEW YORK NY 10278		CODE <div style="text-align: center;">W912DS</div>		7. ADMINISTERED BY (If other than item 6) <div style="text-align: center; font-weight: bold;">See Item 6</div>			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X 9A. AMENDMENT OF SOLICITATION NO. W912DS-05-B-0016			
				X 9B. DATED (SEE ITEM 11) 09-Aug-2005			
				10A. MOD. OF CONTRACT/ORDER NO.			
				10B. DATED (SEE ITEM 13)			
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) The purpose of this amendment is to: (i) provide a revised bid schedule. The only change in this bid schedule is to correct CLIN numbers in the Total Lines. (ii) make changes to the plans and specifications.  The Bid Opening Date remains unchanged.  Note: Bidders must acknowledge receipt of this amendment by the date specified in the solicitation (or as amended) by one of the following methods: In the space provided on the SF1442, by separate letter, or by telegram, or by signing the block 15 below. FAILURE TO ACKNOWLEDGE AMENDMENTS BY THE DATE AND TIME SPECIFIED MAY RESULT IN REJECTION OF YOUR BID IN ACCORDANCE WITH THE LATE BID, LATE MODIFICATIONS OF BIDS OR LATE WITHDRAWAL OF BIDS (FAR 14.304).  Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR  _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA  BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED  07-Sep-2005	

## SECTION SF 30 BLOCK 14 CONTINUATION PAGE

**SUMMARY OF CHANGES**

## SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

AMENDMENT 0006

**TO OFFERORS**

The following changes shall be made to the drawings and specifications.

**DRAWINGS**

1. The following **CHANGES** are made to the drawings **WITHOUT RE-ISSUE**: Reference is made the Detail 8, "DETAIL OF REVEAL," on drawing A-501, Miscellaneous Details -1. Delete this detail and any reference to the reveal from this sheet, Elevations, and elsewhere it appears on the drawings.

**SPECIFICATIONS**

1. The following specifications sections are **REVISED** and **REISSUED** with this amendment:

**05310 -Steel Deck**

2. The following specifications are **REVISED**, but not reissued.

**Section 13120 – Metal Building Systems** (as issued in Amend 4)

- a. Paragraph 1.1, References; **ADD** the following: "UFC 410-010-01 (2003) Minimum Antiterrorism Standards for Buildings."
- b. Paragraph 1.2, Submittals; **ADD** the following sentence to SD-02: "Include with this submittal Steel Decking as required in Section 05310."
- c. Paragraph 1.2, Submittals; **ADD** the following sentence to SD-03, Design Analysis: "Include calculations fore Steel Decking, Section 05310 with this package."
- d. Paragraph 1.2, Submittals; **DELETE** "Roofing" in its entirety without replacement where it appears under SD-04, Samples."
- e. Paragraph 1.3.2.1; **REPLACE** "UFC-410-0110-01" where it appears in this paragraph with "UFC-410-010-01."
- f. Paragraph 1.3.2.11; **DELETE** subparagraph title "b. Roof Panels and Decking;" and **REPLACE** with "b. Roof Deck and Decking;".
- g. Paragraph 1.4.5.3; **DELETE** the words "Roofing and" from the title of the paragraph without replacement.

- h. Paragraph 1.6.1, Warranty (and elsewhere where it may appear in this section of the specification; **DELETE** without replacement the words “gutters and downspouts”.)
- i. Paragraph 2.1.1, Panels and Decking; **REPLACE** “07416 Structural Standing Seam Metal Roof (SSSMR) System” where it appears in this paragraph with “07412 Non-Structural Metal Roofing”.
- j. Paragraph 2.3.5, Fasteners; **REPLACE** “Provide fasteners for standing metal roofs in accordance with 07416 Structural Standing Seam Metal Roof (SSSMR) System.” where it appears in this paragraph with “Provide fasteners for metal decking in accordance with 05310 Steel Deck 07412. Provide as necessary for fastening of the insulation and standing seam metal roofing in accordance with Non-Structural Metal Roofing and 07220 Roof and Deck Insulation”.
- k. Paragraph 3.2.9.1, Blanket Insulation; **DELETE** this paragraph in its entirety without replacement.

**Revised Bid Schedule**

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lump Sum		

All work for the FY05 Force  
FFP

Modernization/Education Facility as described in the plans and specifications,  
including all plant, labor and materials, complete and excluding Items Nos. 2, and  
3 below and all bid options.

PURCHASE REQUEST NUMBER: W16ROE-5193-5922

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002		1	Lump Sum		

Site Work  
FFP

all work outside the five-foot line of the building perimeter, inclusive of demolition  
(As shown on the Civil, Demolition and Exterior Electrical drawings and described  
within the specifications).

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		1	Lump Sum		

All work for the Final  
FFP

Record Drawing Submission (See paragraph 10,i of Section 00800). This price  
cannot be changed.

---

\$20,000.00

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004	Option No. 1	1	Lump Sum		
OPTION	FFP Added cost to provide Vehicle Processing Bay (Area between column lines 2 and 3 and column lines A and E) complete inclusive of all electrical services and lighting, ventilation and heating, compressed air piping, piping, etc., inclusive of vehicle exhaust system and pavement (paved area of 9.7M by 60M) servicing this bay, as shown on the drawings and described in the specifications.				
					<hr/>
NET AMT					

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005	Option No. 2	1	Lump Sum		
OPTION	FFP Added cost to provide Vehicle Processing Bay (Area between column lines 3 and 4 and column lines A and E) complete inclusive of all electrical services and lighting, ventilation and heating, compressed air piping, piping, etc., inclusive of vehicle exhaust system and pavement (paved area of 9.7M by 60M) servicing this bay, as shown on the drawings and described in the specifications.				
					<hr/>
NET AMT					

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006		1	Lump Sum		
OPTION	Option No. 3 FFP Provide 4.5 Metric Ton bridge crane (inclusive of Structural Steel for the supports of the bridge crane) as shown on drawings and described in the specifications.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007		1	Lump Sum		
OPTION	Option No. 4 FFP Provide bituminous asphalt and pavement marking/stripping in lieu of existing parking surface and provide lighting system (all pole mounted lighting in parking lot) for the POV Parking Lot (Eastside of the new facility) and as described on the drawings and in the specifications.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008		1	Lump Sum		
OPTION	Option No. 5 FFP Provide lighting system (8 pole mounted box lighting fixtures, etc.) for the existing vehicle storage area (Westside of the new facility) and as described on the drawings and in the specifications.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009		1	Lump Sum		
OPTION	Option No. 6 FFP Provide concrete Loading Dock with Ramp for forklift access to Door OH-14 (from grade to Warehouse floor at East elevation) as shown on Drawings A101 and A200 and as described in the specifications.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010		1	Lump Sum		
OPTION	Option No. 7 FFP Provide bituminous asphalt in lieu of gravel pavement servicing for all areas except for Vehicle Processing Bays and the Vehicle Classroom (see CLIN No's 4, 5 and 15 for pavement area excluded from this price).				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011		1	Lump Sum		
OPTION	Option No. 8 FFP Provide three (3) hydraulically operated Dock Levelers in lieu of manually operated Dock Levelers, as shown on the drawings and described in the specifications. (Note: Installation of 27mm diameter rigid steel Electrical Conduit with pull wire from leveler pits to stub up at exterior wall 400mm above finish floor shall be provided and installed under CLIN 1.)				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012		1	Lump Sum		
OPTION	Option No. 9 FFP Provide lightning protection, as shown on drawings E107 and E108 and described in the specifications.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013		1	Lump Sum		
OPTION	Option No. 10 FFP Provide motorized operators for all overhead doors in lieu of manually operated chain-wheel operators for the following overhead doors, as described in the specifications: OH-2, OH-4 through OH-10. (Note: OH-1 and 3 shall be provided under CLIN 1).				

---

NET AMT



FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014		1	Lump Sum		
OPTION	Option No. 11 FFP Provide motorized operators for all overhead doors in lieu of manually operated chain-wheel operators for the following overhead doors, as described in the specifications: OH-11, OH-12 and OH-13.				
					<hr/>
NET AMT					

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015		1	Lump Sum		
OPTION	Option No. 12 FFP Provide Vehicle Classroom Bay (room number 106), (Area between column lines 5 and 6 and column lines A and E) complete inclusive of all electrical services and lighting, ventilation (provide taps off of the main duct for future classroom bay. Cap ducts immediately after tap. Balance AHU-1 to 2331 l/s) and heating, piping, etc. and inclusive of with folding partitions and pavement (paved area of 10.68M by 60M) servicing this bay, as shown on the drawings and described in the specifications. Water supply for fire suppression (piping & connection as shown on drawing FS-100) to be provided in adjacent Vehicle Processing Bay under base bid CLIN item 1.				
					<hr/>
NET AMT					

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0016		1	Lump Sum		
OPTION	Option No. 13 FFP Provide concrete pavement in lieu of gravel pavement for vehicle drive servicing the Warehouse.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017		1	Lump Sum		
OPTION	Option No. 14 FFP Provide concrete walkways lieu of gravel pavement for drive servicing the Warehouse from Fifth Street.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018		1	Lump Sum		
OPTION	Option No. 15 FFP Provide radio controlled electric powered slide gate at Ontario Ave. and Fifth Street, as shown on the drawings and described in the specifications, in lieu of removing and replacing existing gate at this location.				

---

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019		1	Lump Sum		
OPTION	Option No. 16 FFP Provide all grading, gravel, fencing changes, and drainage ditches (in and around the existing storage area) as shown on drawing CG-101. For base bid, maintain the 450mm storm drain piping from the infiltration basin to a new manhole (provide and install) at the corner of Ontario Ave. and Fifth Street East to connect the two storm water drains.				

---

NET AMT

**TOTAL BASE BID (CLINS 0001-0003):** \_\_\_\_\_

**TOTAL OPTIONAL ITEMS (CLINS 0004-0019):** \_\_\_\_\_

**TOTAL BASE + OPTIONS (CLINS 0001-0019):** \_\_\_\_\_

**NOTES:**

1. The low bidder for purposes of award will be the conforming responsible bidder offering the lowest amount for the Base Bid Item plus all Optional Bid Items.
2. The minimum construction award will be the amount bid for the Base Bid Items.
3. Bidders are required to bid on the Base Bid and all Optional Bid Items or their bids will be rejected.
4. Bidders are reminded that they must bid on the issued plans and specifications as amended. Any deviations, conditions or attachments made by the bidder himself thereto may render the bid non-responsive and be cause for its rejection.
5. Option #1, 2, 3, 8 and 12: At any time prior to 120 calendar days after award of the contract, the Government at its option, may direct the Contractor, by written order, to perform the work and/or services provided under Option #1, 2, 3, 8 and 12.
6. Option # 4, 5, 6, 7, 9, 10, 11, 13, 14, 15 and 16: At any time prior to 180 calendar days after award of the contract, the Government at its option, may direct the Contractor, by written order to perform the work and/or services provided under Option#4, 5, 6, 7, 9, 10, 11, 13, 14, 15 and 16.
7. Award of any or all of the Optional Bid items will not extend or reduce the contract duration indicated in Paragraph 1 of Section 00800 or elsewhere in the contract documents.

(End of Summary of Changes)

## SECTION 05310

## STEEL DECKS

10/03

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

## AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC 335 (1989) Structural Steel Buildings  
Allowable Stress Design and Plastic Design

## AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI SG03-2 (2002) Cold-Formed Steel Design Manual

## AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M (2004) Structural Welding Code - Steel

AWS D1.3 (1998) Structural Welding Code - Sheet  
Steel

## ASTM INTERNATIONAL (ASTM)

ASTM A 1008/A 1008M (2004b) Steel Sheet, Cold-Rolled, Carbon,  
Structural, High-Strength Low-Alloy and  
High-Strength Low-Alloy with Improved  
Formability

ASTM A 108 (2003) Steel Bars, Carbon, Cold-Finished

ASTM A 653/A 653M (2004a) Steel Sheet, Zinc-Coated  
(Galvanized) or Zinc-Iron Alloy-Coated  
(Galvannealed) by the Hot-Dip Process

ASTM A 792/A 792M (2003) Steel Sheet, 55% Aluminum-Zinc  
Alloy-Coated by the Hot-Dip Process

## FM GLOBAL (FM)

FM P7825 (2003) Approval Guide

## STEEL DECK INSTITUTE (SDI)

SDI 30 (2001) Design Manual for Composite Decks,  
Form Decks, and Roof Decks

SDI DDM02 (1987) Diaphragm Design Manual

SDI DDP (1987; R 2000) Deck Damage and Penetrations

SDI MOC1 (1991) Manual of Construction with Steel Deck

UNDERWRITERS LABORATORIES (UL)

UL 209 (1998; Rev thru Mar 2004) Cellular Metal Floor Raceways and Fittings

UL Bld Mat Dir (2004) Building Materials Directory

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals required in this section shall be together with those required in Section 13120 METAL BUILDING SYSTEMS. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-02 Shop Drawings

Fabrication Drawings; G, DO

### SD-03 Product Data

Deck Units

Accessories

Mechanical Fasteners

### SD-04 Samples

Deck Units

Accessories

### SD-05 Design Data

Deck Units; G, DO

Submit manufacturer's design calculations, or applicable published literature for the structural properties of the proposed deck units.

### SD-07 Certificates

Deck Units

Accessories

Qualification of Welders

Fire Safety

### 1.3 QUALITY ASSURANCE

#### 1.3.1 Deck Units

Deck units and accessories shall be products of a manufacturer regularly engaged in manufacture of steel decking. Provide a 0.19 sq meter sample of decking material and each accessory to be used. Provide sample of acoustical material to be used. Provide manufacturer's certificates attesting that the decking material meets the specified requirements.

#### 1.3.2 Certification of Piston Tool Operator

Manufacturer's certificate attesting that the operators are authorized to use the low velocity piston tool.

#### 1.3.3 Qualification of Welders

Provide welder qualification procedures, welder qualifications, and duration of qualification period in accordance with AWS D1.1/D1.1M and AWS D1.3.

#### 1.3.4 Regulatory Requirements

##### 1.3.4.1 Fire Safety

Roof deck shall have been tested as a part of a roof deck construction assembly of the type used for this project, shall be listed as fire classified in the UL Bld Mat Dir, or listed as Class I construction in the FM P7825, and so labeled.

##### 1.3.4.2 Wind Storm Resistance

The roof construction assembly shall be capable of withstanding an uplift pressure as determined when tested in accordance with the uplift pressure test described in the FM DS 1-28 or as described in UL 580 and in general compliance with UFC 3-310-01.

#### 1.3.5 Fabrication Drawings

Show type and location of units, location and sequence of connections, bearing on supports, methods of anchoring, attachment of accessories, adjusting plate details, size and location of holes to be cut and reinforcement to be provided, the manufacturer's erection instructions and other pertinent details.

### 1.4 DELIVERY, STORAGE, AND HANDLING

Deliver deck units to the site in a dry and undamaged condition. Store and handle steel deck in a manner to protect it from corrosion, deformation, and other types of damage. Do not use decking for storage or as working platform until units have been fastened into position. Exercise care not to damage material or overload decking during construction. The maximum uniform distributed storage load shall not exceed the design live load. Stack decking on platforms or pallets and cover with weathertight ventilated covering. Elevate one end during storage to provide drainage. Maintain deck finish at all times to prevent formation of rust. Repair deck finish using touch-up paint. Replace damaged material.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Steel Sheet

Flat rolled carbon steel sheets of structural quality, meeting the requirements of AISI SG03-2, except as modified herein. For acoustical steel deck units, provide perforated sheets with 4 mm diameter holes staggered 10 mm on-centers.

#### 2.1.2 Steel Coating

ASTM A 653/A 653M designation Z275 galvanized, or ASTM A 792/A 792M designation AZ165, aluminum-zinc alloy. Apply coating to both sides of sheet.

#### 2.1.3 Sound Absorbing Material

Provide glass fiber in roll or premolded form for acoustical noncellular steel roof deck or glass fiber rigid strip for acoustical cellular steel deck in accordance with the manufacturer's standards.

### 2.2 ACCESSORIES

Provide accessories of same material as deck, unless specified otherwise. Provide manufacturer's standard type accessories, as specified.

#### 2.2.1 Adjusting Plates

Provide adjusting plates, or segments of deck units, of same thickness and configuration as deck units in locations too narrow to accommodate full size units. Provide factory cut plates of predetermined size where possible.

#### 2.2.2 End Closures

Fabricated of sheet metal by the deck manufacturer. Provide end closures minimum 0.75 mm thick to close open ends at exposed edges of floors, end walls, eaves, and openings through deck.

#### 2.2.3 Partition Closures

Provide closures for closing voids above interior walls and partitions that are perpendicular to the direction of the configurations. Provide minimum one inch thick soft composition rubber closures above walls and partitions contiguous to acoustical steel deck as indicated on drawings. Provide sheet steel closures above fire-resistant interior walls and partitions located on both sides of wall or partition.

#### 2.2.4 Closure Plates for Composite Deck

The concrete shall be supported and retained at each floor level. Provide edge closures at all edges of the slab of sufficient strength and stiffness to support the wet concrete. Metal closures shall be provided for all openings in composite steel deck 6 mm and over.

#### 2.2.5 Sheet Metal Collar

Where deck is cut for passage of pipes, ducts, columns, etc., and deck is to remain exposed, provide a neatly cut sheet metal collar to cover edges of deck. Do not cut deck until after installation of supplemental supports.

#### 2.2.6 Cover Plates

Sheet metal to close panel edge and end conditions, and where panels change direction or butt. Polyethylene-coated, self-adhesive, 50 mm wide joint tape may be provided in lieu of cover plates on flat-surfaced decking butt joints.

#### 2.2.7 Sump Pans

Sump pans shall be provided for roof drains and shall be minimum 2 mm thick steel, flat type. Sump pans shall be shaped to meet roof slope by the supplier or by a sheet metal specialist. Bearing flanges of sump pans shall overlap steel deck a minimum of 75 mm. Opening in bottom of pan shall be shaped, sized, and reinforced to receive roof drain.

#### 2.2.8 Column Closures

Sheet metal, minimum 0.85 mm thick or metal rib lath.

#### 2.2.9 Access Hole Covers

Sheet metal, minimum 1.2 mm thick.

#### 2.2.10 Hanger

Provide clips or loops for utility systems and suspended ceilings of one or more of the following types:

- a. Lip tabs or integral tabs where noncellular decking or flat plate of cellular section is 1.2 mm thick or more, and a structural concrete fill is used over deck.
- b. Slots or holes punched in decking for installation of pigtails.
- c. Tabs driven from top side of decking and arranged so as not to pierce electrical cells.
- d. Decking manufacturer's standard as approved by the Contracting Officer.

#### 2.2.11 Shear Connectors

Shear connectors shall be headed stud type, ASTM A 108, Grade 1015 or 1020, cold finished carbon steel with dimensions complying with AISC 335.

#### 2.2.12 Mechanical Fasteners

Provide mechanical fasteners, such as powder actuated or pneumatically driven fasteners, for anchoring the deck to structural supports and adjoining units that are designed to meet the loads indicated. Provide positive locking-type fasteners standard with the Steel Deck Institute and the steel deck manufacturer, as approved by the Contracting Officer.



### 2.2.13 Miscellaneous Accessories

The manufacturer's standard accessories shall be furnished as necessary to complete the deck installation. Metal accessories shall be of the same material as the deck and have minimum design thickness as follows: saddles, 1.204 mm (0.0474 inch); welding washers, 1.519 mm (0.0598 inch); cant strip, 0.749 mm (0.0295 inch); other metal accessories, 0.909 mm (0.0358 inch); unless otherwise indicated. Accessories shall include but not be limited to saddles, welding washers, fasteners, cant strips, butt cover plates, underlapping sleeves, and ridge and valley plates.

## 2.3 FABRICATION

### 2.3.1 Deck Units

Deck units shall conform to SDI 30. Form cellular and non-cellular decking and accessories shall conform to ASTM A 653/A 653M, SQ, Grade 230, Grade 33; ASTM A 1008/A 1008M Coated Carbon Steel Sheets, Grade C, 228 mPa, 33, 000 psi minimum yield strength; or ASTM A 792/A 792M Coated Steel Sheets, Grade 33. Panels of maximum possible lengths shall be used to minimize end laps. Deck units shall be fabricated in lengths to span 3 or more supports with flush, telescoped, or nested 50 mm laps at ends, and interlocking, or nested side laps, unless otherwise indicated. Deck with cross-sectional configuration differing from the units indicated may be used, provided that the properties of the proposed units, determined in accordance with AISI SG03-2, are equal to or greater than the properties of the units indicated and that the material will fit the space provided without requiring revisions to adjacent materials or systems. Floor deck system design is based on shared construction.

### 2.3.2 Composite Deck

Composite deck assembly shall conform to ASTM A 653/A 653M or ASTM A 1008/A 1008M.

In addition to resisting shear, devices shall provide resistance to vertical separation between the steel deck and the concrete. Provide one of the following types of shear devices:

- a. Mechanically fixed shear devices such as embossments, holes, or welded buttons.
- b. Mechanically fixed shear devices such as inverted, triangular-shaped ribs.

### 2.3.3 Roof Deck

Deck used in conjunction with insulation and built-up roofing shall conform to ASTM A 792/A or ASTM A 1008/A 1008M. Roof deck units shall be fabricated of 0.75 mm design thickness or thicker steel as determined by the metal building manufacturer and shall be zinc-coated in conformance with ASTM A 653/A 653M, G90 coating class or aluminum-zinc coated in accordance with ASTM A 792/A 792M Coating Designation AZ55.

### 2.3.4 Acoustical Steel Deck

Provide a Noise Reduction Coefficient (NRC) rating of not less than 0.70, when tested in accordance with ASTM C 423, Standard Mounting No. 6. Sound absorbing materials shall be either glass fiber in roll or premolded form for acoustical steel deck (noncellular) or glass fiber rigid strip for

acoustical steel deck (cellular) in accordance with manufacturer's standards. The Contractor shall comply with EPA requirements in accordance with Section 01670 RECYCLED/RECOVERED MATERIALS.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

Prior to installation of decking units and accessories, examine worksite to verify that as-built structure will permit installation of decking system without modification.

#### 3.2 INSTALLATION

Install steel deck units in accordance with SDI 30, SDI DDM02 and approved shop drawings. Place units on structural supports, properly adjusted, leveled, and aligned at right angles to supports before permanently securing in place. Damaged deck and accessories including material which is permanently stained or contaminated, deformed, or with burned holes shall not be installed. Extend deck units over three or more supports unless absolutely impractical. Report inaccuracies in alignment or leveling to the Contracting Officer and make necessary corrections before permanently anchoring deck units. Locate deck ends over supports only. Ends of floor deck may be lapped. Do not use unanchored deck units as a work or storage platform. Do not fill unanchored deck with concrete. Permanently anchor units placed by the end of each working day. Do not support suspended ceilings, light fixtures, ducts, utilities, or other loads by steel deck unless indicated. Loads shall be distributed by appropriate means to prevent damage. Shoring shall be in position before concrete placement begins in composite or form deck. Size cellular decking provided as electrical raceways to accommodate indicated wiring systems. Chip off burrs and eliminate sharp edges which may damage wiring. Mesh decking panels accurately and place in accordance with UL 209. Acoustical material shall be neatly fitted into the rib voids.

##### 3.2.1 Attachment

Immediately after placement and alignment, and after correcting inaccuracies, permanently fasten steel deck units to structural supports and to adjacent deck units by welding with normal 16mm diameter puddle welds or fastened with screws, powder-actuated fasteners, or pneumatically driven fasteners as indicated on the design drawings and in accordance with metal building and deck requirements and manufacturer's recommended procedure and SDI 30. Clamp or weight deck units to provide firm contact between deck units and structural supports while performing welding or fastening. Attachment of adjacent deck units by button-punching is prohibited.

##### 3.2.1.1 Welding

Perform welding in accordance with AWS D1.3 using methods and electrodes recommended by the manufacturers of the base metal alloys being used. Ensure only operators previously qualified by tests prescribed in AWS D1.1/D1.1M and AWS D1.3 make welds. Immediately recertify, or replace with qualified welders, welders that have passed qualification tests but are producing unsatisfactory welding. Location, size, and spacing of fastening shall conform to the recommendations of the Steel Deck Institute and the steel deck manufacturer. Welding washers shall be used at the connections of the deck to supports. Welding washers shall not be used at sidelaps.

Holes and similar defects will not be acceptable. Deck ends shall be lapped 50 mm. All partial or segments of deck units shall be attached to structural supports in accordance with Section 2.5 of SDI DDM02. Shear connectors shall be attached as shown and shall be welded as per AWS D1.1/D1.1M through the steel deck to the steel member. Immediately clean welds by chipping and wire brushing.

#### 3.2.1.2 Fastening

Anchor deck to structural supports and adjoining units with mechanical deck fasteners as recommended by the Steel Deck Institute and the steel deck manufacturer, as approved by the Contracting Officer. Powder-actuated fasteners shall be driven with a low-velocity piston tool by an operator authorized by the manufacturer of the piston tool. Pneumatically driven fasteners shall be driven with a low-velocity fastening tool and shall comply with the manufacturer's recommendations.

#### 3.2.2 Openings

All holes and openings required shall be cut or drilled holes and be coordinated with the drawings, specifications, and other trades. Frame and reinforce openings through the deck in conformance with SDI DDP. Holes and openings 150 to 300 mm across shall be reinforced by 1.204 mm (0.0474 inch) thick steel sheet at least 300 mm wider and longer than the opening and be fastened to the steel deck at each corner of the sheet and at a maximum of 150 mm on center. Holes and openings larger than 300 mm shall be reinforced by steel channels or angles installed perpendicular to the steel joists and supported by the adjacent steel joists. Steel channels or angles shall be installed perpendicular to the deck ribs and shall be fastened to the channels or angles perpendicular to the steel joists. Deck manufacturer shall approve holes or openings larger than 150 mm in diameter prior to drilling or cutting. Openings shall not interfere with seismic members such as chords and drag struts.

#### 3.2.3 Deck Damage

SDI MOC1, for repair of deck damage.

#### 3.2.4 Accessory Installation

##### 3.2.4.1 Adjusting Plates

Install as shown on shop drawings.

##### 3.2.4.2 End Closures

Provide end closure to close open ends of cells at columns, walls, and openings in deck.

##### 3.2.4.3 Closures Above Partitions

Provide for closing voids between cells over partitions that are perpendicular to direction of cells. Provide a one-piece closure strip for partitions 100 mm nominal or less in thickness and two-piece closure strips for wider partitions. Provide sheet metal closures above fire-rated partitions at both sides of partition with space between filled with fiberglass insulation.

#### 3.2.4.4 Cover Plates

Provide metal cover plates, or joint tape, at joints between cellular decking sheets to be used as electrical raceways. Where concrete leakage would be a problem, provide metal cover plates, or joint tape, at joints between decking sheets, cellular or noncellular, to be covered with concrete fill.

#### 3.2.4.5 Column Closures

Provide for spaces between floor decking and columns which penetrate the deck. Field cut closure plate to fit column in the field and tack weld to decking and columns.

#### 3.2.4.6 Access Hole Covers

Provide to seal holes cut in decking to facilitate welding of decking to structural supports.

#### 3.2.4.7 Hangers

Provide as indicated to support utility system and suspended ceilings. Space devices as indicated so as to provide one device per 0.60 square meters.

#### 3.2.5 Concrete Work

Prior to placement of concrete, inspect installed decking to ensure that there has been no permanent deflection or other damage to decking. Replace decking which has been damaged or permanently deflected as approved by the Contracting Officer. Place concrete on metal deck in accordance with Construction Practice of SDI 30. Concrete fill over metal deck is specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE.

#### 3.2.6 Preparation of Fire-Proofed Surfaces

Deck surfaces, both composite and noncomposite, which are to receive sprayed-on fireproofing, shall be galvanized and shall be free of all grease, mill oil, paraffin, dirt, salt, and other contaminants which impair adhesion of the fireproofing. Any required cleaning shall be done prior to steel deck installation using a cleaning method that is compatible with the sprayed-on fireproofing.

-- End of Section --